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APPLICATION NO.	FILING DATE	FIRST-NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,125	06/20/2003	Mutsumi Kitagawa	791_225	6000
25191	7590	03/30/2005	EXAMINER	
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			DOUGHERTY, THOMAS M	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

418

Office Action Summary

Application No.

10/601,125

Applicant(s)

KITAGAWA ET AL.

Examiner

Thomas M. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-9 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 903.
- 4) ☐ Interview Summary (PTO-413).
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

REMARKS

The election/restriction requirement is maintained for the reasons cited in the original election/restriction action despite being traversed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no proper antecedent basis for citation of "the projected section" in claim 4. Claim 8 notes that the lower electrode is "dense in at least the lowermost layer". There is no proper antecedent basis for this description. The electrodes have not been claimed as having layers.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5-7, 8 (as best understood) and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al. (US 5,691,594). Takeuchi et al. show (fig. 1) a piezoelectric/electrostrictive device made of piezoelectric/electrostrictive

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film which comprises: a substrate section (2); and an operation section disposed on the substrate section (2) and constituted of a piezoelectric/electrostrictive film (6) and an electrode film (4, 8); said device being capable of operating by displacement of the operation section, wherein the operation section comprises the piezoelectric/electrostrictive (6) films and electrode films (4, 8) alternately laminated so that uppermost and lowermost layers form the electrode films (4, 8), wherein the operation and substrate sections are integrated by firing (cl. 1 notes heating), and wherein the substrate section is constituted of a ceramics (cl. 1, line 2) containing a titanium (cl. 7) element.

The ceramics constituting the substrate section is zirconium oxide. See at least tables 3 and 4.

The substrate section has a thickness of 2 to 10 micrometers. See col. 10, ll. 9-16.

The electrode film (4, 8) is constituted of a material containing platinum which is a major component. See col. 11, ll. 55-62.

As best understood, the electrode film (4, 8) is dense in at least the lowermost layer which contacts the substrate section.

The operation section includes two to four layers of the piezoelectric/electrostrictive films. See fig. 7.

Allowable Subject Matter

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Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not show nor fairly suggest for a substrate section, a content of a titanium element of a projected section projected by the electrode film of the lowermost layer of the operation section being different from that of the titanium element of a non-projected section in a device in which the substrate is ceramic and in which a piezoelectric layer with electrodes on each surface define the operation section.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited reads on at least some aspects of the claimed invention.

Claim 4 is so indefinite that art cannot be considered against it at this time. When it is made definite, a consideration may be made.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd
tmd

February 11, 2005


TOM DOUGHERTY
PRIMARY EXAMINER